PITTSBURG LOCAL MEETING.

MINUTES OF MEETING HELD FOR THE ORGANIZATION OF A LOCAL
BRANCH OF THE AMERICAN INSTITUTE OF ELECTRICAL
ENGINEERS, AT PITTSBURG, PA.

In accordance with the suggestion made by President C. F. Scott in his presidential address and on invitation from the Electric Club, Mr. C. W. Rice, Chairman of the Institute Committee on Local Organization, called a meeting for the organization of a local section of the AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS in Pittsburg, to be held in the Lecture Hall of The Electric Club, Monday evening, Oct. 13th.

The meeting was called to order by Mr. C. W. Rice.

Mr. Rice was elected Chairman of the evening and Mr. C. E. Skinner, Temporary Secretary.

The following resolution was adopted:

Resolved, That a committee of five (of which the present Chairman shall be one), be appointed to call a second meeting, to provide a programme therefor, and to propose a plan for a permanent organization.

The Chair appointed Mr. P. M. Lincoln, Prof. S. M. Kintner, Mr. F. B. Erwin, Mr. J. S. Peck and Mr. Calvin W. Rice.

Chairman Rice gave a short talk on the desirability of those engaged in electrical pursuits becoming members of the INSTITUTE and read sections of the Constitution, giving the requirements of membership and the initiation fees and dues.

Mr. Scott, President of the INSTITUTE, was then called upon to read his address entitled, Proposed Developments of the INSTITUTE, which was delivered on his inauguration as President at the general meeting of the INSTITUTE in New York, September 26, 1902. Mr. Scott elaborated those points which were of special local interest.

Chairman Rice then called upon Mr. P. M. Lincoln to read Mr. Lamme's paper entitled "Washington, Baltimore & Annapolis Single-Phase Railway." Mr. Lincoln abstracted Mr. Lamme's paper, giving the more important parts. In conclusion, Mr. Lincoln called attention to the fact that Mr. C. P. Steinmetz, at the New York meeting, agreed in practically all engineering points presented in Mr. Lamme's paper. Mr. Lincoln stated that the extra losses in the rails are not really serious, as these can be reduced by increasing the voltage of the circuit, thereby reducing current. He stated that the extra losses in the rails are caused by the so-called "skin effect" when magnetic materials are used as conductors. Measurements made on the Manhattan Railway showed, under certain conditions, an increase in the line loss of about 400 per cent. when magnetic material was used on the circuit over that of non-magnetic material.

Chairman Rice then called for questions on the paper of the evening. These questions were answered by Mr. Lincoln.

Q. Why is the power factor variable?

A. For the reason that the inductive element of the input to the motors at any given current is a constant, whereas the power element is proportional to the speed. It is evident, therefore, that the ratio of these two quantities—which is the power factor—will increase with increasing voltage and therefore increasing power output.

Q. What is the power factor of the motor when starting?

A. From 30 to 35.

Q. Why are motors connected in series parallel instead of all in series?

A. Chiefly to reduce the voltage across the motors and therefore to reduce the strains on the insulation of the armatures.

Q. How is the induction regulator operated?

A. By air pressure.

Q. Why is the primary of the regulator connected in series with the motors?

A. To reduce current in the regulator and auto-transformer and therefore make them smaller.

Q. Why are the fields of the motors connected in separate circuits instead of directly in series with the armatures?

A. In order to enable the motors to be reversed by a single switch.

Q. Why are balancing coils used across the motor armatures?

A. In order to make use of static friction. With this arrangement it is not possible to slip the wheels to which one motor is connected without slipping all, and maximum tractive effort is therefore available.

At this point Chairman Rice called on Mr. N. W. Storer for a few remarks.

Mr. Storer stated that during the last few months, as the exponent of the d. c. railway system, he had been the recipient of much advice and many pitying glances, implying that he would soon be out of a job and had received many offers of new positions as the d. c. railway motor was sure to become a thing of the past. He said that in spite of this, the d. c. railway motor was still doing business and as far as he could see would continue to do so for some time to come. He also said that he welcomed the advent of the new a. c. railway motor as it solved one of the difficult problems in connection with railway work, viz., the long distance railway lines. With d. c. railway motors it is not practical to use more than 600 volts across the motor, or 700 volts on the line, on account of the liability to flashing at the commutator. He said he was particularly gratified to find that when the a. c. motor was to be adopted, the designers were compelled to use the old d. c. motor. There would be some disadvantages in the new system which did not occur in the old, one of these being the increased weight necessary, consisting of transformers and other

apparatus on the car. Mr. Storer closed by saying that he was very glad to extend the right hand of fellowship to the new system.

Mr. Scott spoke of the fact that in the beginning there was a wide difference between the appearance of alternating and direct current machines, but that these differences have gradually become less, until at present there is a very close similarity, so much similarity that it is sometimes very difficult to distinguish one from the other during construction in the factory; and that it is notable that after so many attempts at alternating current railway work, the present motor is remarkably similar to the old direct-current series wound motors. He said that the paper by Mr. Lamme was more than a statement of a new motor; it was a broad statement of a complete new system, indicating how many things are required in the development of such a system, and how many things must be worked together in order to produce an operating system. If, for instance, the drop in the rails should happen to be several times greater than it is with the alternating current at the frequency selected, the present scheme might not be feasible. Mr. Scott referred to his introduction of Mr. Lamme at the New York meeting, where he said that Mr. Lamme had had to do either directly or indirectly with the development and success of practically all the machinery manufactured by the Westinghouse Company.

Chairman Rice asked that the members be perfectly free in giving to Mr. Lincoln, Chairman of the Committee of Permanent Organization, any ideas they might have in regard to such an organization.

A count of the INSTITUTE members present showed a total of 19, with approximately 120 Club members and guests.